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ABSTRACT

A study used pretests/posttests and experimental/control groups to evaluate four business communication skills (BCS) programs conducted with employees at the University of Texas at Austin. Of 91 BCS participants, 86 were women and ages for all participants ranged from 20 to 61 years. Del Gaizo's four levels of evaluation (happiness index, learning index, practical application index, and bottom line index) were used as the basis for evaluating the program. Evaluation results indicated employees like the course. Analysis of pretest/posttest writing assignments, two in-class presentations, and case study dictation indicated that writing on job-related tasks improved significantly, oral communication skills improved 20 percent, and dictation skills improved. A posttest control group design was used to assess use of newly learned skills on the job. Results showed a significant difference in job responsibilities and jobs between those who participated in BCS courses and those who did not. Measurement of bottom-line effectiveness compared effects in efficient use of time, increased revisions completed, increased responsibilities, and improved relationships with supervisors. Improvements were found in all areas. (YLB)

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PROGRAM IN BUSINESS COMMUNICATION AT THE UNIVERSITY OF TEXAS AT AUSTIN
A PRE-TEST-POST-TEST AND EXPERIMENTAL-CONTROL GROUP ANALYSIS OF THE PERSONNEL DEPARTMENT'S TRAINING

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ABSTRACT

Other than end-of-program or course evaluations, consultants and teachers rarely evaluate instruction. This study, used pre-test/post-tests and experimental/control groups to evaluate four Business Communication Skills Programs conducted with employees at The University of Texas at Austin. Results evaluating the programs indicated that employees liked, learned, and used the skills and principles taught. Further analysis revealed that the programs affect the "bottom line" and save time and money.

INTRODUCTION

As job markets become more competitive, recruiting, hiring, and evaluating efficient employees becomes increasingly difficult. Even more challenging is retaining and training those employees as new technology, new processes, and new management systems are adopted. Either new workers must be hired who are already trained for the new situation and who replace untrained, old-time, and perhaps older employees; or more acceptably, as IBM and Hewlett-Packard demonstrate, workers are educated in the most efficient methods for using these new tools.

As a result of these humane programs, and as a result of the recognition that retraining is economically superior to and socially more acceptable than replacing experienced workers with new workers whenever technology changes, the use of in-house and consultant training has increased dramatically.

> Some large utility companies report as many as 500 full time training personnel on their payrolls. It is no surprise that Syracuse University reports that half the graduates of its graduate program in training go to work for corporations [11, p. 1].

Training program expansion is found not only in the private but also in the public sector. During the last two years, The University of Texas at Austin, which employs five professional trainers in its personnel office, spent over $91,000 to offer courses to improve the skills of its support and secretarial staff alone.

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But does training work? How good is the training and how effective is it? Is the money well-spent? Is there an adequate return on investment? Does the training program result in employees acquiring and using new and marketable skills; the kind of skills the organization will need in the next several years? When considering evaluation, these questions should be asked. However, recent reviews of literature in training and development coupled with survey information, indicate that although training program evaluation is often discussed, little evaluation is ever actually done.

Literature Review

Smeltzer reported that less than 12% of 285 companies studied evaluated the results of supervisory training programs in management [14, pp. 6-8].

(Companies may evaluate programs by using a "happiness index"--the participants' reactions to the training and the materials received at the end of the course.)

Clement [6, pp. 9-12] studied the evaluation of management training programs both for pre-1970 and 1970-1980 and reported that evaluation practices were weak before 1970 and have not improved much in the following decade as two-thirds of all current post-training employ no control group...and studies employing no control group and only a post-training measure tell essentially nothing about the effectiveness of his or her course. Clement and Walker [7, pp. 9-12] further indicated that the outlook for the 1980's shows that evaluation may continue to play a lesser role in management training as a survey of 2,000 training professionals reported that "Although training functions in their organizations were growing in terms of breadth and depth of services provided, this growth meant they were spending more time on management activities such as planning and organizing, and less time on the more traditional training activities, including evaluation."

Apparently, organizational management is demanding a wider array of programs but not necessarily demanding a concomitant determination of their worth to the organization. The danger is the potential of growth in the training function without accountability--and ultimately a proliferation of ineffective programs or the perception (in lean times) that training and development programs are superfluous.

Results of Clement's study are supported by a survey of a professional organization of trainers [13]. Ninety percent of the trainers surveyed stated that, while they believe in evaluations, they don't use them because evaluations are not required by most of the firms for which they work. Many trainers reported that the managers who hire them actually discourage spending time to evaluate when they say: "We wouldn't have hired you if we didn't think you were effective." Carlisle [4, pp. 37-39], discussing a lack of management support for evaluation, also presents the "we-know-you're-good response" as a reason for not evaluating programs. Blumenfeld and Holland [3, p. 638] sum up management's attitude toward evaluation: "Management is reluctant to 'waste time' testing something that it has convinced itself is good."

Further, the results of evaluations of training are rarely published and those that are [10, pp. 32-37] tend to present hypothetical or extrapolated bottom line evaluations.

During pressing economic times when line items perceived as less cost efficient are cut from the budget, training programs are cut, too--unless they are seen as added value to the organization. Historically, employee development courses and workshops have not been considered a business necessity in good times or bad, but only acceptable in good times.

If these attitudes toward evaluation--little support and no insistence--indicate the prevailing attitudes in the business community, it is no wonder trainers do not evaluate programs. And it is no wonder that managers are quick to conclude that training programs aren't necessary in weak economic business cycles.

To determine whether or not funding for a training program should be continued, managers must see evidence that employee education and training are effective in producing significant improvements in productivity or quality of output.

In past years, evaluation has been discussed, but has this discussion led to the implementation of effective evaluation of programs? The sparsity of the literature indicates, no! Some articles have suggested plans and recommended designs for evaluation [6, pp. 9-14]. Del Gazio [8, pp. 30-31] suggests four levels of evaluation of employee training:

Level One:	Happiness Index (Did participants like the program?)
Level Two:	Learning Index (Did participants learn the skills taught?)
Level Three:	Practical Application Index (Did participants use newly learned skills on the job?)
Level Four:	Bottom Line Index (Was the training productive or cost effective?)

Del Gazio states that the third and fourth levels are the most difficult to quantify and therefore are rarely measured. The sparseness of specific and real evaluation models coupled with the fact that no training program at The University of Texas at Austin had been evaluated beyond the happiness index led to the adoption of Del Gazio's four level model as the design for the Business Communication Skills training

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*Readers will be interested to learn that the costs of this pre-test post-test control group evaluation were kept under $20 (not including salaries).

program. Readers are encouraged to evaluate, adopt, modify, and apply the procedure(s) and methods that follow to test their own internal and external training programs.

THE TRAINING PROGRAM

Because of the strong local job market (3.9% unemployment reported for May, 1985), The University of Texas at Austin has difficulty attracting, hiring, and retaining a skilled clerical staff. Thus, in 1981, four courses in clerical training (Business Communication Skills, and three levels of applied keyboarding) were developed and taught by faculty members from the College of Business.

In the keyboarding courses, five-minute "writings" were used in pre-tests and post-tests as the basis for evaluating the effectiveness of the program. In the Business Communication Skills (BCS) class, only end-of-course happiness ("did you like...") evaluation measures were used. No follow-up studies determining the effectiveness of the courses were employed. However, during Spring and Fall, 1984, this impact evaluation study was conducted to measure behavioral change: that is whether or not skills learned in the Business Communication Skills (BCS) course transferred from the classroom to the work setting. For comparison of participating and non-participating staff, a matched control group was employed using identical job classifications.

To enable other trainers to adopt, replicate, or modify the existing study, a description of the program (course design; goals and objectives), will follow along with a discussion of the experimental design, instruments, method of evaluation, results, implications and recommendations.

THE COURSE MODEL

The BCS Program

In 1982-3, a detailed task analysis of employees at the Senior Secretary I and II levels (high level support staff personnel) was completed and validated by the mid-level managers working with them. The task analysis identified several complex and communication related duties performed by employees working in these specific job classifications. In turn, this task analysis led to the development and structure of the BCS training program. The program decomposition models are found in the Appendix, Exhibits 1 and 2. The models indicate principles and techniques of communication relating to writing (letters, memos, reports), speaking (public speaking, dictation, and telephone usage), self-management (listening, time management, planning, decision

making), and managing others (selected supervisory techniques). These principles formed the integral components for the program.*

The program was described and advertised in an internal house organ (The Personnel-O-Gram), and a sign-up form was included. A $40 charge was assessed each participant's department to cover a portion of the instructor stipend and the duplication of course materials. Between 1982 and 1984, the BCS Program was offered five times and class size increased from 9 in 1982 to 29 in Fall, '84.

The 30 hour BCS program met two hours per day, three times each week, for five weeks. The program was held during normal working hours and participants were released from work to attend the class. Spatafore [15, p.28] urges support for this practice:

> it is a myth to believe that any employee is too valuable to the job to be away from his desk during business hours...few employees are truly indispensable every working minute. To believe that an employee should always be at his desk is a short-term viewpoint. Enabling an employee to bring new ideas and methods to the company through schooling can reap great benefits.

The BCS Participants

Eighty-six of ninety-one participants were women. Age ranged from 20 to 61 years, with 31 being the mean age. Sixty percent were Anglo, thirty percent Hispanic, five percent Black, and five percent Oriental. Seventy-five percent were classified as Senior Secretary I, and twenty-five percent as Senior Secretary II (the higher level). Fifty-two percent of the BCS program participants were self-selected, forty-five percent were assigned to the course by their supervisor(s), and three percent enrolled in the program as a result of a recommendation from a colleague.

Course Methodology

As in many training programs, participants heard lectures and viewed films. However, because these training techniques involve only passive behavior, they were minimized. Specifically, the goal of the program was to not only produce knowledge gains, but also to enable

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*The BCS training program focused mainly on improving the formal communication skills and supervisory skills of the participants. It was believed that secretaries would not only be better supervisors, but also be more easily and effectively supervised since, during the training program, they discussed supervisory techniques. So, while many Senior Secretaries are not responsible for managing staffs, they became aware of the challenges of supervision and thus may have been able to support their managers better.

participants to write, speak, and supervise better--in other words to change work behavior. Hence, the principal mode of instruction was the case study; the principal method of learning involved working in small groups of five to seven employees. The following exhibit represents the teaching/learning approach.

EXHIBIT 3

Typical Course Segment Using the Environmental Mode*

Time Spent (minutes)	Activities	Goals
15	lecture	teach specific principles of communication
2-5	present a case or introduce a specific piece of correspondence from a university department; answer questions	form a solution to the case or revise the correspondence
5	individual critique or assessment	evaluate the presence of communication principles; outline suggested revisions
1	form groups	synergism
10	group ideas exchange discussion	sharing of ideas leads to better solutions
5	presentation	one member in each group discusses the proposed solution to the case or the revision
5	group revisions were sometimes collected and returned to the specific department which originated the correspondence or sometimes the instructor collected the revisions and a new version was retyped and both (old and new) versions used to introduce the next day's topic	

*This teaching approach, labeled the "environmental mode," enables participants to receive immediate feedback on ideas they felt could be implemented on the job. Further, results of over 200 experimental studies on the teaching of writing [9, pp. 1-26] indicated

The environmental mode of teaching was used starting with the second class meeting after participants had been introduced to basic prnciples of written communication. The problem solving/revision/case approach to learning was selected based on studies which found the case study the most effective approach for the development of problem solving skills. [6, pp. 495-510] The closer the training situation matches the participants' work situation, the more effective the training will be.

Did this approach to training work? Del Gaizo's four levels of evaluation were used as the basis for evaluating the program:

Did the employees like the program?
Did the employees learn the skills taught?
Did the employees use the newly learned skills on the job?
Does the training effect the bottom line?

LEVELS OF TRAINING

Level One: Did the employees like the training program?

As previously noted, a "happiness index" was used to evaluate past BCS courses. Results of evaluations indicated that employees like the course and felt that it not only was appropriately instructed, but also related to their jobs.

When asked if the course related to their job, one hundred percent of participants said yes. When rating the importance of the course in performing their jobs, the mean response from ninety-one participants was 4.60 (where on a 5 point scale, 5 was extremely important, 3 was fairly important, and 1 was not important.) Responses rating teaching methods and teaching techniques resulted in a mean response of 4.86 (where on a 5 point scale 5 was very effective, 3 was occasionally not effective, and 1 was ineffective. Effectiveness of course objectives, course organization, course materials, and instructor's response to participants were consistently rated at 4.56 (where 5 was excellent).

Level Two: Did the employees learn the skills taught?

To determine the effectiveness of the BCS program itself, whether or not employees learned the skills--two writing cases were constructed to measure achievement in writing.

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that in teaching writing principles, on pre-to-post measures, the "environmental mode" is over four times more effective than just lecturing, and three times more effective than unstructured group activities. Thus, the environmental mode incorporates clear behavioral objectives. Its carefully planned and structured activities and concepts covered in class are related to tasks performed at work. And crucially: it involves high levels of participant interaction.

Writing sample cases/assignments were content-validated by two professors from the college of business and one personnel specialist as being equivalent in difficulty and representative of communication principles taught in BCS, and skills used in daily work tasks. For the fifth BCS class (n=29), writing assignments were administered on the first and last day of the course. To reduce bias and limit extraneous factors effecting results, participants were not informed of the purpose of the assignment (called "a sample") nor were they told that a post-BCS sample would be taken. The assignments included identical written instructions, and all were written in class under a strict 15 minute time limit. Assignments were collected and graded by an outside evaluator and by the instructor. In addition, as a test of rater reliability, a random sample of graded assignments was copied with all grades and marks removed and were rated by two professors not participating in the study. In this analysis, outside raters identified every major and minor error or success on papers. Thus, the inter-rater reliability rating was shown to be consistent with the grades and comments on the papers.

Assignments were graded and returned to BCS participants with detailed written comments on the second day of class. On the last day of class an equivalent writing assignment was administered. Statistical analysis of variance results of the pre-and post-test results are as follows:

VARIABLE	NUMBER OF CASES	MEAN	STANDARD DEVIATION	STANDARD ERROR	DIFFERENCE MEAN	STANDARD DEVIATION	STANDARD ERROR	CORR.	2-TAIL PROB.	T VALUE	DEGREES OF FREEDOM	2-TAIL PROB.
PRE	21	6.5595	1.647	.359	-1.2262	2.365	.516	.283	.379	-2.38	20	.028
POST		7.7857	2.064	.450								

The analysis indicates that writing on job-related tasks improved* significantly (0.28 level of significance).

The results of the learning portion of the study are corroborated by a similar study evaluating instruction of juniors and senior students at the College of Business at The University of Texas at Austin. [1, pp. 1-31]

In addition to written communication skills,, oral communication skills were evaluated on the basis of two in-class presentations. Using rating scales to evaluate the presentations, pre and post-test analysis revealed a twenty percent improvement.

Also evaluated were dictation skills, using a case study and then giving participants five minutes to outline a response. Participants then dictated messages into a tape recorder.

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*Writing appropriate beginnings, supportive sections, and clear closings necessary to achieve one's purpose. Improvement also included reducing errors such as incomplete sentences, poor word choice, and errors in spelling and punctuation.

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Analysis based on a twenty item check-list indicated performance comparable to a senior course in Managerial Communication, where the average score on a dictation assignment was a grade of "B."

The analysis at Level Two indicated, then, that participants learned to apply written communicaton skills and improved oral communication and dictation skills.

Level Three: Did the employees use the newly learned skills on the job?

To assess the use of the newly-learned skills on the job, a post-test control group design was used. During Spring, 1984, the sixty-two employees from the first four BCS classes were pooled to form the experimental group. A matched, randomly selected thirty-nine member control group of employees was chosen from identical job classifications.*

Other analysis comparing the two groups revealed similar ages, years of work experience, and years of university employment. A control group was randomly selected from secretaries who were in identical job classifications but who had not taken the course. This is an additional check on the transfer of skills learned in BCS to the job. The large control group sample, the randomization process and the standard job qualifications mandated by the university for employees in equivalent positions statistically makes the groups comparable in all areas except that the control group did not take the BCS course. To determine if the communication-related skills emphasized in the BCS class were used on the job, a five page survey containing twenty-three multiple-answer questions was created. This survey administered to the experimental groups was expanded to eight pages (forty-three questions) as a check on the reliability of "happiness index" evaluations from previous BCS Programs.

Survey development

As noted, the BCS instructor working with a management development specialist for the University of Texas Personnel department developed the two forms of the survey. To insure reliable and valid responses, a professor from the Educational Psychology Department performed a content analysis on all questions. This analysis led to two revisions.

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*The University published standard job qualifications for all positions. Because all employees in Senior Level I and II have passed a series of tests, have been interviewed by both members of the Personnel Department and specific Departments to which they have been assigned, and have met specific qualifications for employment as stated in published job descriptions, it is assumed that individuals hired as Senior Secretaries show no systematic, significant differences in job skills or responsibilites before completing the Business Communication Skills course.

As a further check on the reliability and validity of the survey, both surveys were administered to four university employees who were not members of the experimental or control groups but who worked in similar job classifications. The analysis and pilot testing resulted in final revisions. The final survey package contained identical cover letters along with color-coded and numbered surveys. Surveys were mailed to both groups on the same day using the in-house mail system.

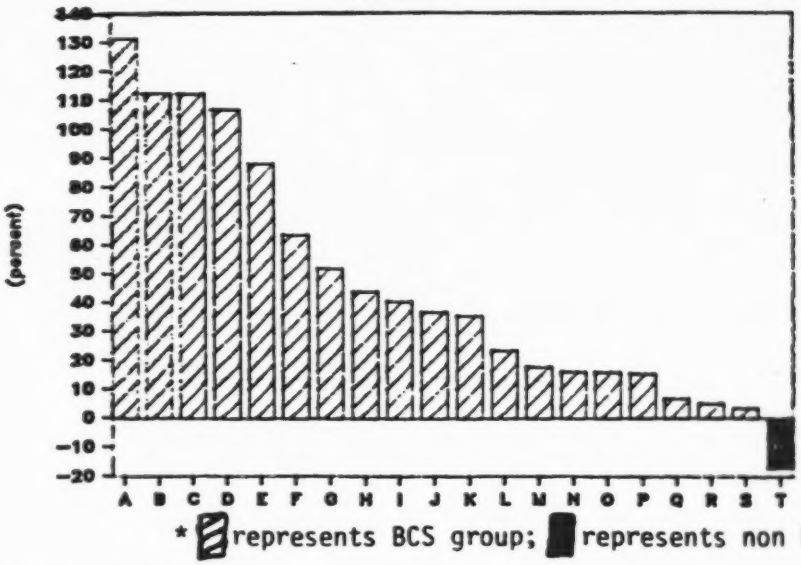
Survey Reponse Rates

The mailing resulted in a 70% response rate from each group. Ten days after the first mailing, non-respondents were sent a follow-up letter and another copy of the survey. The follow up resulted in the response rate increasing to 90% for each group, and a third follow-up sent one week later resulted in final response rates of 92.5% (n=50/54) from the experimental group* and a 94.1% (n=32/34 from the control group.*

Responses were mathematically equalized to account for the unequal n's of the groups. The following work related comparisions resulted.

Survey Results

GRAPH 1



* represents BCS group; represents non BCS group

*In the BCS group of sixty-two completers, four workers had resigned, four were on leave-of-absence status, and four did not return the survey. In the non-BCS group of thirty-nine, three workers had resigned, two were on a leave of absence, and two did not return the survey.

TABLE 1

	Duties:	Experimental Group a (percent)	Control Group b (percent)	Ratio (a-b)/b
A	Bookkeeping/Accounting	44	19	131.6
B	Transcribe from dictation	34	16	112.5
C	Make travel arrangements	34	16	112.5
D	Supervise employees	58	28	107.1
E	Give directions, demostrate equipment	64	34	88.2
F	Write letters	72	44	63.6
G	Computer work (entering, retrieving)	76	50	52.0
H	Write memos	72	50	44.0
I	Schedule appointments	52	37	40.5
J	Attend meetings/record minutes	26	19	36.8
K	Record sick leave/absences	42	31	35.5
L	Collect/check time sheets	42	34	23.5
M	Distribute mail	66	56	17.9
N	Answer phone	94	81	16.0
O	Maintain supplies	58	50	16.0
P	File	90	78	15.4
Q	Photocopy	94	88	6.8
R	Perform receptionist duties	62	59	5.1
S	Type	90	87	3.4
T	Other	34	41	-17.1

As the graph and the table indicate, in nearly all categories (excluding "other" which, when examined, identified routine job duties not related to communication) there is a significant difference in job responsibilities and skills between those who participated and those who did not participate in the BCS course. Also as the tables and summarized results indicate, differences in skill breadth and depth occasionally exceed one hundred percent in the "supervise employees" category. Communication objectives of the BCS Program were therefore achieved as the table below demonstrates.

TABLE 2

SKILL	In BCS Group	In Non-BCS Group	Ratio
Transcribe from dictation	34	16	112.5%
Supervise employees	58	28	107.1%
Give directions, demonstrate equipment	64	34	88.2%
Write letters	72	44	63.6%
Write memos	72	50	44.0%

Participants in the BCS groups write more letters and memos, practice oral communication skills as they give direction and demonstrate equipment, more often supervise co-workers, and use transcription and dictation skills.

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Further analysis of the survey indicated that BCS participants make more word, sentence, and paragraph revisions on material typed for others (95.9% BCS versus 75.8% non BCS); and 41% of the BCS participants make these revisions without conferring with the supervisor while only 34% in the control group reported this response. Also, 32.6% of the BCS participants actually compose reports, compared to 13.7% of the control group.

Surveyed from 3 to 23 months after completing the course, responses revealed that 93% of the BCS participants felt that the course was important to performing their jobs and 92% felt that the course helped them perform their jobs more efficiently, versus 95% who felt so on the last day of instruction.

Finally, during the BCS course participants were given a 60 page resource book containing material which covered writing, speaking, managing and dictating. Questionnaire results indicated 46 of 50 BCS participants kept the book and 37 of the 50 indicated that they used this material while at work. One-half of those respondents reported using the materials more than once each week and the other half reported monthly use. (Giving employees reference material definitely adds to the effectiveness of the program.)

Level Four. Does the Training Effect the Bottom Line?

Measuring the bottom-line effectiveness of training programs may be the most difficult and elusive task. This requires certain "...observable, quantifiable, tangible, and verifiable facts that show specific profit or performance results." [8, p. 31] While this direct approach to evaluation is well suited to measuring the results of training programs in industrial or goods producing/supplying segments of the society, it breaks down when applied to service operations in which the input is heterogeneous, the quality of service is important (at the same time it is impossible to examine each instance of service delivery) the output or product is intangible, and the assignment of dollar value to the product is subjective. When considering the bottom line as a basis for performance evaluation, the results will be more acceptable when the following conditions exist:

1. The discretion of the manager is limited.
2. The number and degree of either uncontrollable or uncertain variables are limited.
3. The time span of the manager's job is relatively short.

None of these conditions are typically present in the training and development setting. For example, randomly selecting members of a sales staff, training them in new sales techniques, and then monitoring sales performance and comparing sales performance with a randomly selected control group results in a quick and dirty measurement of bottom-line cost/benefit. But the perceived benefit of training (increased sales)

may be entirely due to unmeasured extraneous variables, such as increased manager attention and promotion opportunities, higher morale, etc. Further, when forms of less specific job performance are evaluated (writing letters, reports, giving presentations, instructing others), bottom line measurement becomes even more difficult.

To measure the bottom line benefits of the BCS program, it was initially felt that comparing absenteeism, performance appraisals, designing and evaluating on-the-job writing, and comparing promotions of the experimental group with those of the control group would be a valid comparison. But these aspects were, in the end, not measured for several reasons among which were that a uniform institutional policy for absenteeism did not exist, performance appraisals were not uniform across various departments, and rater reliability of performance can vary and be suspect. Further, requiring participants to write specific letters and memos for evaluation because of its highly non-routine nature was not employed because of a large potential for bias. Because receiving promotions was not an objective of the program, it too was not chosen as an analysis of benefit. Because of the lack of specific dollar value that can be assigned to communication sent or received, evaluating in a meaningful way the bottom-line results of specific letters, memos, reports, was not possible.

In spite of the difficulties, however, it was possible to compare effects in the following areas:

efficient use of time
increased revisions completed (without comsulting supervisor)
increased supervisory responsibilities
increase in duties assigned and/or requested
improved relationships with supervisors

Efficient Use of Time

Evaluation results on validated tests of written communication revealed that post-program sample letters significantly improved (.028). Because a strict 15 minute limit was imposed on BCS participants, it is suggested that, given the same amount of time at work, improved messages are produced. Thus, employees given instruction in Business Communication Skills make better use of their time when composing messages. (A study evaluating an experimental and a control group with time and quality as variables could strengthen bottom line analysis as salary comparisons could be done.)

Increased Revisions Completed

When the BCS group was compared with the control group, survey results reported that the BCS group makes 20.1 percent more revisions on material that is typed for others (usually the supervisor's work). And 41 percent of all revisions made by the BCS trained group are made without consulting with the supervisor. Apparently, the increase in communication skills saves the supervisor time and results in improved correspondence. Further analysis revealed that respondents work

from handwritten copy by a 2 to 1 margin. As noted, more BCS participants compose and revise routine written communication without direct supervision than do those in the control group. For the office or group manager this means additional discretionary time for planning and control functions and thus more time to respond to non-routine situations that demand management involvement. When managers channel their knowledge and experience in this way rather than personally doing all routine office work, the results translate to more efficient use of personnel dollars. Additionally, although respondents were not polled as to their present use of dictation skills, the BCS group was given instruction and practice in using dictation (as a means of increasing productivity). The benefits derived from this instruction can be inferred.

Increase in responsibilities

Before the study began, a list of standard duties was developed from lists of daily tasks kept by staff members holding positions similar to the control and experimental groups at this University. This list was included on the questionnaire and respondents checked the duties that they perform regularly. More participants who took the BCS program indicated that they performed more of the duties than did control group participants. For these matched groups, there is evidence that BCS participants are performing tasks that in the control group are either not performed or are performed by other staff members. In either case the BCS participants are not only using few personnel hours by performing the tasks themselves, they are saving the organization money that may in the control group setting be spent on additional salaries and benefits. Additional results from a comparison of surveys indicated that BCS participants supervise other employees 108 percent more than an equivalent control group. This supervision results in an increase in the work performed in each office because it enables the manager to accomplish other tasks. In addition, one-half of the BCS completers presently perform work that they did not perform before taking the class. Samples of changes in duties include:

"I now do extensive work on the computer;
I compiled a solicitation resource notebook, and I have taken on all solicitation efforts for the college;
I take the initiative on jobs that need to get done;
I compose more letters on my own;
I now take minutes of meetings;
I have become the person people come to with questions and problems about the computer system;
I edit all my bosses' letters."

For a program to be fully successful, the work environment must be conducive to change, and supervisors must support the employee. At the conclusion of the BCS class, participants are encouraged to write a memo to their supervisors to thank him/her for his support and for the opportunity to attend the class. Completers also report what they have learned or now can do. In this memo, new skills and knowledge are reported. This feedback typically results in employees receiving new

duties and responsibilities. Forty-three percent of employees who reported changes in duties stated that the new duties became part of their jobs due to a personal request; and 57 percent reported that the new duties were assigned by the supervisor.

Improved Relationships With the Supervisors

When interpersonal communication is relatively conflict-free, the result is typically reduced misunderstanding of duties and/or assignments, reduced redundancy resulting from miscommunication, and more accurate perception of performance goals by the manager and the staff member, all of which result in increased efficiency. Sixty percent of the BCS group felt that their relationship with the supervisor improved as a result of the class. And the remainder reported that the relationship stayed the same. No one reported that relationships worsened. Perhaps improvement can be attributed to the employees' studying supervision and accepting responsibility in the office.

Implications

Although specific to a university campus environment, this study shows, first, that the efficiency of a training program can be measured; and second, that such training does produce significant results in the work place.

One point of note is that when selecting employees to attend in-house training programs self-selection may not alway yield the best results. For example, in the present study, members of the control group rated their communicative skills (writing, speaking, dictating, and listening) higher than did the BCS participants. Since the non-completers had no formal basis of comparison, the reliability of this self-rating is suspect. Further, the results of the pre-test results indicate that BCS participants enter the class with weak skills and leave with skills that are significantly improved. Leaving training to employee preference and self-selection or asking an employee if he or she "would like to take a course in communication skills" may be a counter-productive method of course selection because employees tend to overestimate their skills and abilities.

The study was conducted to evaluate a training program on four levels. This article demonstrates that in-depth evaluation is possible and necessary, serves as a model for further evaluations, and encourages testers, developers, and managers to evaluate their programs.

Currently few organizations have any idea what they are getting for all the money and effort spent on training. The same care that is currently given to analyzing marketing techniques, production methods, accounting systems and benefits packages must also be given to analyzing training programs. Without such scrutiny, managers are playing a costly game of chance with their training budgets.

Exhibit 1

Viewpoint: The diagram is drawn from a staff member's viewpoint

Purpose: The purpose is to illustrate the Business Communication Skills training program.

320

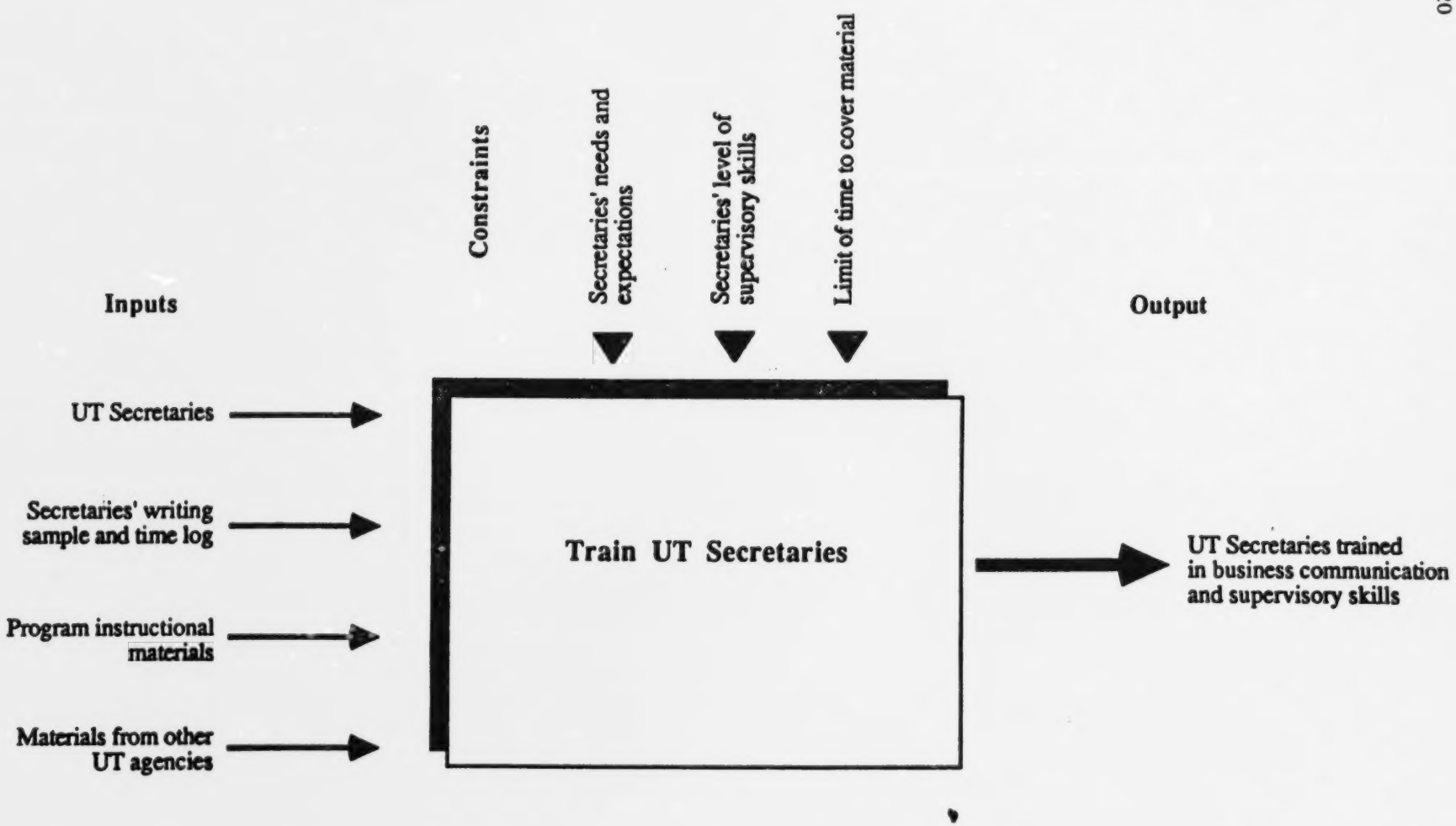
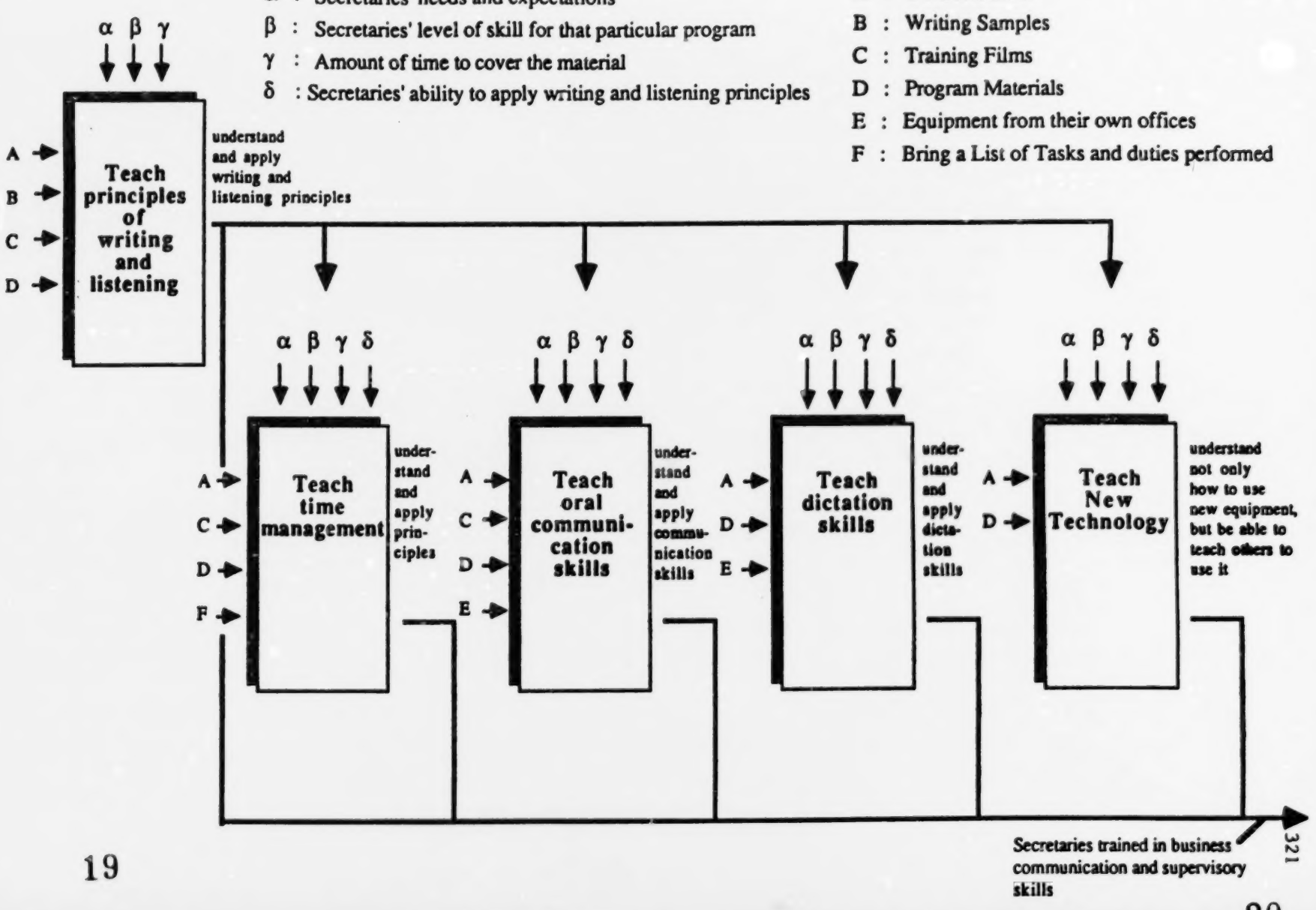


Exhibit 2

α : Secretaries' needs and expectations
β : Secretaries' level of skill for that particular program
γ : Amount of time to cover the material
δ : Secretaries' ability to apply writing and listening principles

A : UT Secretaries
B : Writing Samples
C : Training Films
D : Program Materials
E : Equipment from their own offices
F : Bring a List of Tasks and duties performed



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